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(54) Title: COMPOSITION CONTAINING BERBERINE OR A DERIVATIVE THEREOF AND AN ANTIMICROBIAL AGENT OR AN ANTIBIOTIC AGENT, AND THEIR USE FOR TREATING ORAL PATHOGENS AND OTHER DISORDERS

(57) Abstract: A composition and method of controlling oral and other human pathogens is disclosed. The composition and method utilize an antimicrobial or antibiotic and a berberine as active agents to treat mammals, including humans.

WO 2004/093876 A3

INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/4741 A61K31/155 A61K31/65 A61P31/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, EMBASE, CHEM ABS Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 741 138 A (RICE DAVID EARL ET AL) 21 April 1998 (1998-04-21) * col.2, 2nd par.; col.3-4; col.5, 1.1-38; col.6, 1.32, 1.66; col.7, 1.14-15; claim 1 *	1-21, 24-29
X	----- WO 98/44926 A (IYER LOKANATHAN M ; WHITFIELD DOUGLAS F (US); OPTIVA CORP (US); SCOTT) 15 October 1998 (1998-10-15) * p.2, 1.4-5, 1.12-14; p.8, 1.10-14, 1.20-25; p.10, 1.22-32; p.11, 1.11-16; claims 1-34, espec. 9,10,34,35 *	1-21, 24-29
X	----- WO 02/091848 A (PROCTER & GAMBLE) 21 November 2002 (2002-11-21) * p.8, 1.14-19, espec. 1.16-17; p.14, 1.7-10 *	1-21, 24-29
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US2004/008616

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 6 248 309 B1 (IYER LOKANATHAN M ET AL) 19 June 2001 (2001-06-19) * Table 2;</p> <p>-----</p>	<p>1-21, 24-29</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/008616

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 1-23 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application; as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-29 (all in part).

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-29(all in part.)

Method for controlling oral pathogen (in oral hygiene, such as for treating dental caries, periodontal disease, gingivitis, perionitis, candidial infections, infection of the oral hard and soft tissue or plaques formation) comprising administering to a mammal in need thereof an effective amount of an antimicrobial agent (excluding antibiotic agent) and berberine, compositions or kits containing said two active ingredients.

2. claims: 1-29(all in part.)

Method for controlling oral pathogen (in oral hygiene, such as for treating dental caries, periodontal disease, gingivitis, perionitis, candidial infections, infection of the oral hard and soft tissue or plaques formation) comprising administering to a mammal in need thereof an effective amount of an antibiotic and berberine, compositions or kits containing said two active ingredients.

3. claims: 21(in part), 22-23(in part)

Method for treating endocarditis or non-oral infections comprising administering to a mammal in need thereof an effective amount of an antimicrobial agent (excluding antibiotic agent) and berberine, compositions or kits containing said two active ingredients.

4. claims: 21(in part), 22-23(in part)

Method for treating endocarditis or non-oral infections comprising administering to a mammal in need thereof an effective amount of an antibiotic agent and berberine, compositions or kits containing said two active ingredients.

INTERNATIONAL SEARCH REPORT

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